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TITLE: A washing aid for a washing machine has a container carrying the correct dose of laundry agents - which is ruptured when required .

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ABSTRACTED-PUB-NO: ZA 9800086A

BASIC-ABSTRACT:

A washing aid (12) e.g. for use with a washing machine comprises a single dose of material e.g. including liquid cleansing agent, fabric softener, bleach etc in a sealed container e.g. which is ruptured when required for a load of laundry.

USE A sealed single dose washing aid can be ruptured when required,

ADVANTAGE Enables consistent dosing to be achieved.

CHOSEN- Dwg.1/4
DRAWING:

TITLE-TERMS: WASHING AID WASHING MACHINE CONTAINER CARRY CORRECT DOSE LAUNDER AGENT RUPTURE REQUIRE

DERWENT-CLASS: D25 P28 Q32

CPI-CODES: D11-A; D11-B01; D11-B15; D11-D02;

SECONDARY-ACC-NO:

1,454,124

UNITED STATES PATENT OFFICE.

CHARLES F. McEWAN, OF OAK PARK, ILLINOIS, ASSIGNOR TO HARRY D. LATHROP, OF CHICAGO, ILLINOIS.

CAN-WASHING MACHINE.

Application filed March 16, 1922. Serial No. 644,371.

To all whom it may concern:

Be it known that I, CHARLES F. McEWAN, a citizen of the United States, and a resident of Oak Park, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Can-Washing Machines, of which the following is a specification.

My invention relates to improvements in can washing machines, especially to the feeding mechanism thereof and has for its principal object the provision of a construction of this character which will be highly efficient in use and economical in manufacture.

A further object of the invention is the provision for intermittently moving cans, and the covers therefor, through a can washing machine.

Other objects will appear hereinafter. The invention consists in the combinations and arrangements of parts hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings forming a part of this specification, and in which:

Fig. 1 is a fragmentary top plan view of a machine embodying the invention.
Fig. 2 is a vertical sectional detail view of the same taken substantially on line 2-2 of Fig. 1.
Fig. 3 is a fragmentary detail view of the same taken substantially on line 3-3 of Fig. 2.
Fig. 4 is a fragmentary sectional detail view of the same taken substantially on line 4-4 of Fig. 2.
Fig. 5 is a sectional detail view of the can feeding mechanism embodied in the invention; and
Fig. 6 is a detail view of the mounting of the carriage bearing rollers embodied in the invention.

The preferred form of construction, as illustrated in the drawings, comprises parallel tracks 10 mounted on horizontal frame members 12 and 12' of a rigid frame 13. The tracks 10 are supported on the horizontal frame members 12 and 12' by cylindrical sleeves 14 and are fixedly secured to the said frame members by nut receiving bolts 16. A platform 16 is fixedly secured on the rear ends of the tracks 10, onto which the cans 11 are placed to be fed along

the tracks. Fixedly secured to upright frame members 17 of the rigid frame 13 are guide members 18 which serve to guide the cans 11 as they pass along the tracks 10. Opposite the tracks 10 and extending parallel therewith are tracks 18 which are also mounted on horizontal frame members 12 and 12', said tracks being supported thereon by cylindrical sleeves 19 and secured thereby to nut receiving bolts 20. Along the tracks 18 the covers 21, of the cans 11 are intermittently moved in unison with the cans, said covers being attached to the cans 11 by suitable chains 22, as illustrated in Fig. 2. Guide members 22' are also fixedly secured to the upright frame members 16, serving to guide the covers 21 along the trackway 18.

The means for intermittently moving the cans 11 and the covers 21 along the tracks 10 and 18 comprises a reciprocatory carriage A, the construction of which will now be described in detail.

The reciprocatory carriage A comprises oppositely arranged pairs of runners 23 and 24, which extend longitudinally with respect to the tracks 10 and 18, adjacent the inner sides thereof. The runners 23 and 24 are fixedly secured in spaced relation with respect to each other by transverse plates 25 and 26. The lower flange 27 of each of the runners 23 and 24 rides on the peripheries of flanged bearing rollers 28 and 29 which are mounted on the tracks 10 in hangers 30 and 31. The bearing rollers 28 and 29 are arranged to move longitudinally within the hangers 30 and 31 when the runners are reciprocated. Each of the runners 23 and 24 carry on their inner adjacent sides longitudinally extending plates 32 and 33 which are held in spaced relation with respect to the runners by cylindrical sleeves 34 and fixedly secured to the runners by nut receiving bolts 35.

Pivotaly mounted between the runners 23 and 24 and the plates 32 and 33, in spaced relation with respect to each other, are pawls 36 and 37 arranged and adapted to engage the cans 10 and the covers 21 for intermittently moving the cans and covers in unison along the tracks 10 and 18 when the runners are reciprocated. As illustrated in Fig. 4 the pawls 36 and 37 are eccentrically mounted between the runners and centrally mounted between the runners and the plates. This arrangement being such that

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upon a rearward movement of the runners the engaging ends 38 of the pawls will be forced downwardly by the cans and covers. This downwardly movement of the engaging ends 38 of the pawls permits the said pawls to pass under the cans and covers, upon a rearward movement of the runners, to engage the next succeeding can and cover to be intermittently moved along the tracks.

The carriage A is reciprocated forward through the medium of pawls 39 and 40 which are pivotally carried by the runners 23 adjacent the outer sides thereof, as best illustrated in Fig. 5. As the cans 11 and the covers 21 are passed from platform 16 onto the tracks 23 and 24, the can engages the pawls 39 and 40 and upon manually pushing the can forward the carriage A is reciprocated in a forward direction. Each of the pawls 39 and 40 are provided with depending portions 41 and 42 carrying a transverse bar 43. Each end of the bar 43 carries a roller 44 which rides on longitudinally extending angular guides 45 which are fixedly secured to the horizontal frame members 12 and 12', as best illustrated in Fig. 5. The rollers 44 upon a forward movement of the carriage A pass under inclined trip arms 46 which are pivotally mounted on guides 45, as illustrated in Fig. 4. The purpose of the trip arms 46 are to disengage the can engaging end of the pawls 39 and 40 from cans 11, this function being performed in the following manner.

As stated, upon a forward movement of the carriage A, the rollers pass under the trip arms 46, but upon a rearward movement of the carriage A the rollers pass over the inclined trip arms 46. This engagement of the rollers with the inclined trip arms 46, upon a rearward movement of the carriage A, disengages the can engaging ends of the pawls 39 and 40, permitting the pawls to pass under the cans in a rearward direction, as will be readily understood.

Secured to the rear ends of the runners 23, are pawls 47, as shown in Fig. 1, the purposes of which is such that as the cans are passed from the platform 16 onto the runners 23, the upwardly and inwardly turned engaging ends 48 of the pawls will help to retain the cans in an upright inverted position. This arrangement prevents the can from being accidentally tipped forward, should the operator apply his hands too near the upper portion of the inverted can when pushing the can from the platform into engagement with the can engaging ends of the pawls 39 and 40 for reciprocating the carriage A in a forward direction.

The reciprocatory carriage A is forced into its rearmost position through the action of a weight actuated mechanism. This means for forcing the carriage into its rearmost position comprises a weight kick arm 49 which is fixedly secured to the transverse plate 25. Upon a forward movement of the carriage A the inner end 50 of the weight kick arm 49 engages a roller 51 which is carried by a pivotally mounted weight carrying arm 52. As the carriage A moves forward the arm 49 forces the weight carrying end 53, of the arm 52, upwardly. As will be readily understood when the carriage A has completed its extreme forward movement the weight carrying arm 52 will force the carriage toward its rearmost position. After the weight kick arm disengages the weight arm 52 the impulse of the arm causes the carriage to continue to move rearwardly into its initial position. The weight carrying arm 52 also serves to limit the forward movement of the carriage A by engaging with a transverse angular member 54 fixedly secured to an upright frame member 55 of the rigid frame 13. The horizontal frame member 12' serves to limit the rearward movement of the engaging end of the weight carrying arm 52, as will be readily understood.

To prevent the carriage A from swaying laterally when reciprocated, I provide longitudinally extending guide members 56 which are fixedly mounted on the transverse plates 25 and 26 arranged and adapted to engage the side edges of the adjacent tracks 10 and 18.

In operation, a can to be fed along the tracks 10 and a cover to be fed along the tracks 18 are positioned on the platform 16. The operator manually pushes the can, to be fed along the tracks into engagement with the can engaging ends of the pawls 39 and 40 whereupon the carriage A is caused to move in a forward direction. The cover which is attached to the can, as herein stated, will follow the can in unison, the pawls 37 carried by the runners 24 accomplish this function. After the operator has pushed the can forward along the tracks 10, as far as the carriage A will permit, he releases his hold upon the can allowing the carriage to return to its normal position through the action of the weight carrying arm 52. Upon this rearward movement or returning of the carriage to its normal position the pawls 39 and 40 are disengaged from the can through the medium of the inclined trip arms 46 and permitted to pass under the can leaving the can stationary upon the tracks 10. After the carriage A has returned to its normal position the operator places a second can and cover upon the platform 16 and by pushing the can forward in the same manner as the first can passed onto the tracks 10 the carriage A is again caused to reciprocate forward through the medium of the pawls 39 and 40. After the second can has been pushed forward along the tracks 10

10 as far as the carriage will permit, the carriage again returns to its normal position in the manner herein stated. Upon this returning of the carriage to its normal position the pawls 36 and 37 are caused to pass under the first can and cover fed along the tracks 10 and 18 to engage the succeeding can and cover or the second can and cover feed along the tracks. Aseach and every can and cover is pushed forward from the platform along the tracks, into engagement with the pawls 39 and 40 this function of the pawls is repeated, intermittently moving the cans and covers in unison along the tracks 10 and 18 to the end of the machine where they are discharged from the tracks by an improved mechanism for this purpose. It will be noted that the cans and covers are only moved forward along the tracks when the reciprocatory carriage is reciprocated forward and when the carriage returns to its normal position the cans and covers remain stationary on the tracks until the carriage is again reciprocated forwardly.

25 By the construction of a can feeding mechanism as herein set forth I provide means for intermittently moving cans and covers, in unison, along trackways, permitting the cans and covers to remain stationary on said trackways for a time, to be washed through the medium of any approved washing appliance.

My improved can feeding mechanism is especially adapted for use as part of a can washing machine arranged to wash milk cans of various sizes. However, my improved feeding mechanism can be adopted for use in combination with various other washing apparatuses of the type of a can washing machine.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of the construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A can washing machine comprising a guideway along which cans are adapted to be moved; a carriage mounted to reciprocate along said guideway; and a member carried by said carriage adapted to releasable engage cans to be moved along said guideway and adapted to cause said carriage to move in the direction of travel of said cans.

2. A can washing machine comprising a can guideway; a carriage mounted to reciprocate along said guideway; means on

said carriage arranged to feed cans along said guideway; and means operable by a can for reciprocating said carriage; substantially as described.

3. A can washing machine comprising a can guideway; a carriage mounted to reciprocate along said guideway; means on said carriage arranged to feed cans along said guideway; means operable by a can for moving said carriage in one direction; and yieldable means for moving said carriage in the opposite direction, substantially as desired.

4. Can feeding mechanism comprising a guideway; a carriage arranged to intermittently move along said guideway and means operable by a can moved along said guideway for operating said carriage, substantially as described.

5. Can feeding mechanism comprising a trackway; a reciprocatory carriage; and means on said carriage for engagement with a can for intermittently moving cans along said trackway upon reciprocation of said carriage, substantially as described.

6. A can feeding mechanism comprising a guideway along which cans are adapted to move; a reciprocatory carriage; and means for reciprocating said carriage in one direction, said means including a member carried by the carriage for engagement with a can to be moved along said guideway.

7. Can feeding mechanism comprising a trackway; a reciprocatory carriage for moving cans along said trackway; and means for reciprocating said carriage in one direction upon engagement with a can, substantially as described.

8. Can feeding mechanism comprising a trackway; a reciprocatory carriage for moving cans along said trackway; means for reciprocating said carriage in one direction upon engagement with a can, and means for disengaging said carriage reciprocating means upon reciprocation of said carriage in the opposite direction, substantially as described.

9. Can feeding mechanism comprising parallel tracks; a reciprocatory carriage having means for engagement with a can whereby said carriage is reciprocated upon movement of said can; and oppositely arranged pawls on said carriage for intermittently moving cans along said tracks upon reciprocation of said carriage, substantially as described.

10. Can feeding mechanism comprising a trackway; a reciprocatory carriage; pawls on said carriage for reciprocating said carriage upon engagement with a can to be fed along said trackway; and pawls equally spaced apart on said carriage for intermittently moving cans along said trackway, substantially as described.

11. Can feeding mechanism comprising